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The importance of social media use and interpersonal factors in suicidal ideas

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ABSTRACT

Aims: Every year, more than 800.000 individuals die by suicide as a global public health issue. In our study, we aimed to evaluate the relationship between suicidal ideation and interpersonal needs, acquired suicidal efficacy, and social media use in the context of Psychological Suicide Theory.

Methods: This cross-sectional study was conducted with 450 individuals. Participants were contacted through online platforms (Whatsapp and e-mail). The sociodemographic form (gender, age, education, income level, which social media platforms they prefer, their daily social media usage time, what kind of news they follow on social media), Interpersonal Needs Questionnaire (INQ), Acquired Suicide Capability - Fear of Death Scale, (ACSS-FAD), Beck Hopelessness Scale (BHS) and Social Media Use Scale (SMUIS) were applied to the volunteers who gave consent to participate in the study. The research was approved by the Kırıkkale University Faculty of Medicine Non-Interventional Research Ethics Committee.

Results: A total of 450 individuals, 308 (68.4%) women and 142 (31.6%) men, participated in the study, with an average age of 26.19±7.81. 9.3% (n=42) of the participants had a history of suicide attempt. Half of the participants (50.7%) reported that the suicide news attracted their attention and affected them, and 22.4% reported following the suicide news on social media. It was observed that those who had suicide attempts had significantly higher scores on the SMUIS and INQ ($p=0.002$, $p<0.001$). Those who followed suicide news on social media were found to have substantially higher SMUIS, INQ, and ACSS-FAD scores ($p<0.001$, $p<0.001$, $p=0.029$). Hierarchical regression analysis was utilized to evaluate factors assumed to have an effect on acquired suicidal efficacy. According to this; social media use was found to be effective on acquired suicide capability- death fearlessness (($\beta=.295$, $t(450)=6.01$, $p<0.001$)).

Conclusion: Social media use and interpersonal needs among those who attempted suicide were found to be significantly higher. Additionally, the use of social media has been found to be the most effective factor in finding suicide capability-fearlessness about death.

Keywords: Interpersonal needs, suicide capability, thwarted belongingness, perceived burdensomeness

INTRODUCTION

Suicidal behavior, which includes death, attempts, plans and thoughts, is a universal problem that affects the individual, family and society due to its consequences. Approximately one million people end their lives by suicide each year. Suicidal behaviors that do not result in death are known to be 10-20 times more common.[1] Nationally, suicide was among the 10 leading causes of death among people aged 10-64 years in the United States in 2020 and was the second leading cause of death among adults aged 25-34 years.[2]

It has been reported that suicide attempts are also common among the youth of our country; 32.8%-45% of the youth have thought of suicide at least once in their lives, and 7%-11% have attempted suicide at least once in their lives.[3] Despite this, studies on this subject are relatively few due to the fact that suicidal behavior is a difficult subject to study, that working with suicidal individuals involves safety problems, and that it is impossible to work with individuals who have succeeded in suicidal behavior. At this point, the Interpersonal Psychological Theory of Suicide (IPIK) has been put forward in order to understand suicide, its causes and relationships, and to develop methods to prevent suicide. According to the theory, it is stated that perceived burdensomeness and thwarted belongingness increase suicidal thoughts in individuals, but acquired suicide capability for behavior is also required.[4] Therefore, social connection and its disruption play a critical role

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in suicidal thoughts. In addition, it has been reported that negative interactions mediated by social media may contribute to suicidal thoughts by preventing the sense of belonging in general, although not as much as negative face-to-face interactions.[5]

Social media platforms or social networking sites consist of online websites or mobile phone applications that allow users to share information, messages and multimedia content with relatives, friends and strangers.[6] It has been reported that social media applications such as Facebook, Google, Youtube, Twitter and Instagram are the most preferred applications by users in our country.[7] Social media provides opportunities such as following technological developments, producing content, and creating networks by coming together with like-minded people.[8] However, transferring needs such as communication, self-expression, and entertainment to the virtual environment can trigger addiction to social media and cause people to experience some mental problems by living in isolation from social life.[9] In addition, providing false and harmful information about mental illnesses on social media (Twitter, Facebook, etc.) may increase the tendency for prejudice and stigmatization in society and prevent individuals with mental illnesses (schizophrenia, bipolar disorder, etc.) from receiving treatment. The study examining society's perspective on schizophrenia and stigma via Twitter confirms this view.[10] Similar results were reported in the study where society's perspective on mental illness and bipolar disorder was evaluated via Twitter.[11] In another study, time spent on social media was found to lead to an increase in depression and anxiety symptoms, harmful social comparisons, and a decrease in subjective well-being. However, when the literature is analyzed, it is also found that people at risk of suicide are affected by the suicide news they encounter on social media.[12] Suicides on social media have a greater negative impact on individuals, particularly those who use the Internet for suicidal purposes, are less likely to seek help and have less social support. The fact that suicide has a contagious effect may help to explain this situation.[13] The study by Brown et al.[14] also showed that social media sites are used to talk about suicide, search for content about suicide, and share experiences about suicide or self-harm through photos and videos. This situation suggests that social media use may also pose a risk of suicide for individuals without a diagnosis of mental illness.

In light of this information, we aimed to evaluate the relationship between suicidal ideation and interpersonal needs, acquired suicidal efficacy, and social media use in the context of Psychological Suicide Theory.

METHODS

The study was carried out with the permission of the Kırıkkale University Non-interventional Clinical Researches Ethics Committee (Date: 27.04.2022, Decision No: 2022.04.15). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

Study Design

This cross-sectional study was conducted at Kırıkkale University Faculty of Medicine, Department of Psychiatry. The study sample consisted of 450 individuals aged 18-45. Individuals were reached via online platforms (Whatsapp, e-mail) and informed about the study. Individuals who completed the consent form and online questionnaires after the information was included in the study. Inclusion criteria; I) Not receiving psychiatric treatment for any reason in the past or at the time of the study, II) Not receiving treatment for a chronic medical condition, III) Not using alcohol and substances.

Data Collection Tools

The sociodemographic form (gender, age, marital status, education, income status, which social media platforms they prefer, their daily social media usage time, what kind of news they follow on social media), interpersonal needs questionnaire (INQ), acquired suicide capability - fear of death scale, (ACSS-FAD), Beck hopelessness scale (BHS) and Social media use scale were applied to the volunteers who gave consent to participate in the study.

Interpersonal needs questionnaire (INQ): It is a 10-item self-report scale to measure the perceived burdensomeness and thwarted belongingness, which are perceived as two factors that make people suicidal.[15] While five of the INQ items measure perceived burdensomeness, the other five measure thwarted belongingness. Participants responded on a 7-point Likert-type scale. A higher total score on the scale is associated with an increase in interpersonal needs. In the Turkish adaptation and psychometric research conducted in Turkey, the internal consistency reliability coefficient was found to be 0.90 for perceived burdensomeness and 0.79 for thwarted belongingness. Turkish validity and reliability study was conducted by Eskin et al.[16]

Acquired suicide capability - fear of death scale, (ACSS-FAD): It is a short scale created by Ribeiro et al.[17] by taking 7 items from the 20-item Acquired Suicide Efficacy Scale. Participants respond on a 7-point Likert-type scale. An increase in the total score obtained from the scale is associated with an increase in fearlessness of death. In the Turkish adaptation and psychometric research conducted in our country, the internal consistency reliability coefficient was found to be 0.85.[16]

Social media use integration scale (SMUIS): The original form of the scale was developed by Jenkins-Guarnieri, Wright, and Johnson.[18] The scale includes a 6-point scale from 1: Strongly Disagree to 6: Strongly Agree. The 8th item in the scale is reverse scored. Higher scores indicate higher levels of social media use. The Cronbach's alpha internal consistency reliability coefficients of the original form of the Social Media Use Scale were 0.89 for the social integration and emotional connection subscale, 0.83 for the integration with social routines subscale, and 0.91 for the whole scale.[19]

Beck hopelessness scale (BHS): It was developed by Beck et al. to measure hopelessness. It includes 20 items answered as "Yes" and "No". It was adapted into Turkish by Durak et al.[20] and found to be adequate. IPS scores vary between 0 and 20 and high scores indicate excessive feelings of hopelessness.[21]

Statistical Analysis

Statistical Package For Social Science (SPSS) 24.0 package program was used for data analysis. The Kolmogorov-Smirnov test examined the normality assumption. Independent groups t-test, correlation analysis, and regression analysis techniques were used to examine whether there were differences between groups. The analysis began by determining the prerequisites for the regression analysis of the scale scores. As a result of the analysis of the graphs, it was determined that the scores obtained from the dependent variable Acquired Suicide Capability - Fear of Death Scale (ACSS-FAD) showed a linear relationship with the scores of the predictor variables Interpersonal Needs Questionnaire, Beck Hopelessness Scale (BHS) and Social Media Use Scale. Factors thought to have an effect on acquired suicidal competence (income, age, education, SMUIS, INQ, BHS, and ACSS-FAD) were evaluated by hierarchical regression analysis.

RESULTS

A total of 450 individuals, 308 (68.4%) women and 142 (31.6%) men, participated in the study, with an average age of 26.19±7.81. It was observed that 64.7% of the participants were undergraduates, 27.8% were middle school-high school, 3.8% were postgraduate, and 3.8% were primary school graduates. When income status is analyzed, almost half (43.6%) are below the minimum wage. The majority (67.1%) live in the city center. 9.3% (n=42) of the participants had a history of suicide attempt. The time spent on social media was 60-180 minutes (40.4%), and the most used platforms were Instagram (60%), Whatsapp (18%), and Youtube (13.3%). Half of the participants (50.7%) reported that the suicide news attracted their attention and affected them, and 22.4% reported following the suicide news on social media.

Table 1. Demographic characteristics of the participants (n=450)

Variables	Number (n)	Percentage (%)
Gender		
Female	308	68.4
Age		
18-30	339	75.3
31-44	100	22.4
45-55	11	2.3
Mean (SD) Range	26.19±7.81	
Education		
Primary	17	3.8
Middle-High	125	27.8
University	291	64.7
Graduate	17	3.8
Occupation		
Student	240	53.3
Officer	116	25.8
Housewife	50	11.1
Worker	44	9.8
Income Level		
<4800 TL	196	43.6
4800-7000 TL	153	34
>7000 TL	101	22.4
Living Space		
Province	302	67.1
District	130	28.9
Village	18	4
Was there a suicide attempt?		
Yes	42	9.3
No	408	90.7
Social media time		
15-60 min.	73	16.2
60-180 min.	182	40.4
>180 min	195	43.3
The platform with the most time spent		
Instagram	270	60
Whatsapp	81	18
Youtube	60	13.3
Twitter	31	6.9
Facebook	8	1.8
Do suicide get your attention?		
Yes	228	50.7
No	222	49.3
Do you follow suicide news on social media?		
Yes	101	22.4
No	349	77.6
Are you affected by news of suicide on social media		
Yes	228	50.7
No	222	49.3

SD: Standard Deviation

The relationships between the scales were evaluated by correlation analysis. Accordingly, there was a positive correlation between social media use and acquired fear of death (r=0.302; p<0.001). A negative correlation was observed between acquired fear of death and age (r =-0.144; p<0.001).

Table 2. The correlations between social media usage, interpersonal need, acquired fear of death and sociodemographic variables

Variables	1	2	3	4	5	6	7	8
Age	1							
Education level	-.215**	1						
SMUIS	-.324**	-.004	1					
INQ	-.214**	-.067	.219**	1				
Perceived burdensomeness	-.233**	-.017	.188**	.865**	1			
Thwarted belongingness	-.181**	-.086	.186**	.834**	-.160**	1		
BHS	.008	.241**	-.157**	-.140**	-.160**	-.176**	1	
ACSS-FAD	-.144**	.037	.302**	.019	.003	.030	-.026	1

Abbreviations: SMUIS: Social Media Usage Scale INQ: Interpersonal Needs Questionnaire, ACSS-FAD: Acquired Suicide Capability - Fear of Death Scale, BHS: Beck Hopelessness Scale, *p<0.05, **p<0.001

The t-test was used to evaluate whether there was a significant difference in the participants' scores according to their suicide attempt in terms of the SMUIS, the INQ, the BHS and the ACSS-FAD scores. Accordingly, it was observed that those who had suicide attempts had significantly higher scores on the SMUIS and INQ (t=3.19; p=0.002; t= 4.88 p<0.001). (Table 3). According to the participants, the status of following suicide news on social media, the SMUIS, the INQ, the BHS and the ACSS-FAD scores were evaluated by t-test. accordingly, it was observed that those who followed suicide news on social media had significantly higher scores on the SMUIS, INQ and ACSS-FAD scales (t=3.67; p< 0.001; t=4.36 p<0.001; t=2.19; p=0.029, respectively) (Table 4).

Table 3. Evaluation of scale scores according to suicide attempts with the independent t-test

Scales	Attempted suicide	N	Mean (SD)	T test results		
				t	Cohen's d	p
SMUIS	Yes No	42 408	35.45(11.12) 30.52(9.37)	3.19	1.00	.002
INQ	Yes No	42 408	35.95(14.49) 27.25(10.60)	4.88	1.00	.000
BHS	Yes No	42 408	10.62(2.68) 10.60(2.50)	.045	NA	.964
ACSS-FAD	Yes No	42 408	28.19(9.19) 27.14(9.99)	.651	NA	.515

SMUIS: Social Media Usage Scale INQ: Interpersonal needs questionnaire, ACSS-FAD: Acquired suicide capability - fear of death scale, BHS: Beck Hopelessness Scale, p<0.05, p<0.001

Table 4. Evaluation of scale scores according to the status of following suicide news on social media with the independent t-test

Scales	Following suicide news on social media	N	Mean (SD)	T-test results		
				t	Cohen's d	p
SMUIS	Yes No	101 349	34.04(10.99) 30.09(9.03)	3.67	0.530	.000
INQ	Yes No	101 349	32.30(12.30) 26.84(10.69)	4.36	0.706	.000
BHS	Yes No	101 349	10.26(2.54) 10.70(2.50)	-1.56	NA	.118
ACSS-FAD	Yes No	101 349	29.13(10.56) 26.69(9.65)	2.19	0.674	.029

SMUIS: Social media usage scale INQ: Interpersonal needs questionnaire, ACSS-FAD: Acquired suicide capability - fear of death scale, BHS: Beck hopelessness scale, p<0.05, p<0.001.

In our study, factors thought to have an effect on acquired suicidal competence (income, age, education, SMUIS, INQ, BHS and ACSS-FAD) were evaluated by hierarchical regression analysis. Socio-demographic variables included in the analysis at the first step and explained 2% of the variance in the model. In addition, INQ and BHS were also included in the analysis but were found not to predict the model significantly (β=-.058, t(450)=6.76, p≤0.05, β=.009, t(450)=6.61, p≤ 0.05, respectively). It was seen that the contribution of the Social Media Use Scale added in the last step to the model was significant and explained 48% of the variance ((β=.295, t(450)=6.01, p<0.001)).

Table 5. Evaluation of factors thought to have an effect on acquired suicidal ability by multiple hierarchical regression analysis

Model	Predictor	B	SE B	β	p	R2	ΔR2
1	Constant Age Income Education	31.392 -.192 .346 .027	2.99 .064 .623 .783	 -.152 .027 .006	.000 .003 .579 .898	.022	.015
2	INQ	-.046	.042	-.052	.276	.022	.013
3	BHS	.019	.187	.005	.919	.023	.012
4	SMUI	.307	.050	.299	.000	.099	.086

SMUIS: Social media usage scale INQ: Interpersonal needs questionnaire, ACSS-FAD: Acquired suicide capability - fear of death scale, BHS: Beck hopelessness scale, p<0.05, p<0.001

DISCUSSION

In the context of Interpersonal Psychological Theory of Suicide, we examined the relationship between social media use and suicidal behavior in our study. Social media use and interpersonal needs were found to be substantially higher among those who attempted suicide. In addition, as the use of social media increased, interpersonal needs and acquired suicide capability-fearlessness about death-increased. It has been observed that the most effective factor in acquired suicide capability -fearlessness about death is the use of social media.

Every year, more than 800.000 individuals die by suicide is a global public health issue. Studies show that suicide is among the top four causes of death worldwide among young people aged 15-29.[1] Studies show that suicide is

among the top four causes of death worldwide among young people aged 15-29. It has been reported that suicidal behavior is an important public health problem in our country, and 7-11% of young people attempt suicide at least once in their lifetime.[3] Similarly, in our study, 9.3% of the participants were found to have attempted suicide. In a study (n=1262) conducted with university students in our country, it was seen that approximately 42% of the sample had suicidal thoughts and 7% had attempted suicide.[22] In another study, it was reported that 45% of 1203 university students had suicidal thoughts and 11% had attempted suicide.[23] In this respect, our result was similar to the literature.

Interpersonal suicide theory is one of the most important models for understanding the development of suicidal thinking and behavior. According to the theory, the factors that push a person towards suicidal ideation are thwarted belongingness and perceived burdensomeness.[24] In this context, it has been reported that social connections are important and breaking social ties is critical. It has been reported that negative interactions mediated by social media may contribute to suicidal ideation by preventing the sense of belongingness.[5] Social media is generally defined as any digital tool that allows social interaction. In our study, it was seen that the platforms where the most time was spent were Instagram, WhatsApp, and YouTube. A survey of USA youth under 30 found that 95% prefer YouTube, 70% Facebook, 71% Instagram, 65% Snapchat, 48% TikTok, and 42% Twitter.25 In a recent study conducted with young people (N=1537) living in 12 provinces of Turkey, it was reported that the most used social media platforms were Instagram, YouTube and Twitter, respectively.[7] Our study's sample group was older, but the findings were consistent with previous research.

Although social media offers the opportunity to follow developments, come together with similar people, network, etc., the virtualization of social life may cause mental problems.[6] In this context, in our study, it was seen that individuals with a history of suicide attempts had significantly higher scores on social media use, perceived burdensomeness and thwarted belongingness. This may be explained by the fact that these individuals see social media as a shelter and are more suicidal due to the lack of communication with others and the deterioration of their previous relationships. In a study examining the interpersonal and internal determinants of suicidal thoughts and behaviors in university students (n=655), it was reported that the perceived burdensomeness and thwarted belongingness are associated with suicidal ideation.[26] In another study conducted in China (n=2320), it was reported that perceived burdensomeness and thwarted belongingness have a mediating role in the relationship between shame and suicidal ideation.[27] In a study evaluating the factors contributing to the idea of death in older adults, it was reported that perceived burdensomeness was associated with the idea of death.[28] In a recent meta-analysis study, the use of social media and suicidal thoughts and behaviors were examined. Accordingly, it has been reported that both exposure to content related to self-harming thoughts and behaviors and the creation of this content are related to suicidal plans and behaviors.[29] Although our study did not examine what content the patients were exposed to on social media, it is known that it is easy to access this content on social media.

Social media, often used for purposes such as receiving news, accessing information, leisure, socializing, and entertainment, has been shown to have an impact on suicidal behavior.[9] In our study, it was observed that individuals who follow suicide news on social media have higher social media use, perceived burdensomeness, thwarted belongingness, and acquired suicide capability-death fearlessness compared to other individuals. This may be explained by the fact that suicidal individuals express their distress in an anonymous and easily accessible environment and interact with similar individuals.[30] Online media use has the potential to be damaging in this regard since it might normalize suicidal conduct, trigger behavior (i.e., contagion), stimulate competitive behavior, and provide knowledge on suicide techniques. Also, victims of cyberbullying are almost three times more likely to attempt suicide and are twice as likely to have suicidal thoughts compared to non-victims.[31]

According to the Interpersonal Suicide Theory, a third factor contributing to suicidal behavior is acquired capability for suicide. The capacity has been proven to increase following exposure to terrible events and nonfatal self-harming behaviors.[16] In addition, the number of self-harm behaviors and the low reaction to these behaviors increase the risk of suicide in people who engage in self-harm behaviors. Especially, men are less afraid of death than women because of their social gender patterns, military service, law enforcement, and participation in more dangerous activities.[32]

In our study, factors that are thought to have an effect on acquired suicidal efficacy (gender, age, education, social media use, perceived burdensomeness and thwarted belongingness) were evaluated with hierarchical regression analysis. According to the analysis, social media use was found to be effective in acquired suicide capability- death fearlessness. This may be explained by the fact that people who are exposed to painful life events are more able to communicate with similar-minded people on social media platforms and support

each other in terms of suicidal behavior. In a study that evaluated suicide rates in various age groups after an online series in which suicide was depicted fictionally, it was reported that suicides had increased, especially among young people.[33] Consistent with the results of the aforementioned study, a distinct inquiry carried out in Canada also observed an increase in suicide rates, with a special emphasis on incidents involving the youth population.[34] Nevertheless, the available data regarding this topic is limited, thus requiring the conduct of longitudinal investigations.

The evaluation of the findings of the current study should take into consideration its limitations. First, the current study is cross-sectional in design. In order to gain a deeper understanding of potential causal links between variables, it will be necessary to conduct longitudinal and experimental investigations. Another limitation is the use of self-report scales when evaluating.

CONCLUSION

In the context of Interpersonal Psychological Theory of Suicide, we examined the relationship between social media use and suicidal behavior in our study. Social media use and interpersonal needs were found to be substantially higher among those who attempted suicide. In addition, as the use of social media increased, interpersonal needs and acquired suicide capability -fearlessness about death increased. It has been observed that the most effective factor in acquiring suicide capability -fearlessness about death is the use of social media. Our study is a pioneering study and further studies on this subject are needed. The choice of social media platforms on which individuals spend their time is of great importance, considering the fundamental role these platforms play in our daily lives. Particularly, content that may affect suicidal behavior and thoughts should be kept away from people who are at suicide risk. In addition, the presentation of suicide news on social media should be framed and not encouraged.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was carried out with the permission of the Kırıkkale University Non-interventional Clinical Researches Ethics Committee (Date: 27.04.2022, Decision No: 2022.04.15).

Informed Consent: All participants signed consent informed to participate in the study.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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REFERENCES

1. World Health Organization (WHO). Suicide worldwide in 2019: Global health estimates. World Health Organization, Geneva, Licence: CC BY-NC-SA 3.0 IGO; 2021.
2. Curtin SC, Heron M. Death rates due to suicide and homicide among persons aged 10-24: United States, 2000-2017. *NCHS Data Brief*. 2019;(352):1-8.
3. Eskin M. Gençler arasında intihar düşüncesi. girişimi ve tutumları. *Türk Psikol Derg*. 2017;32(80):93-111. doi.org/10.1037/a0018697
4. Van Orden KA, Witte TK, Cukrowicz KC, Braithwaite SR, Selby EA, Joiner TE Jr. The interpersonal theory of suicide. *Psychol Rev*. 2010;117(2):575-600. doi:10.1037/a0018697
5. Ringer FB, Anestis MD. Thwarted belongingness in relation to face-to-face and online interactions. *Suicide Life Threat Behav*. 2018;48(4):468-480. doi:10.1111/sltb.12367
6. Pittman M, Reich B. Social media and loneliness: why an Instagram picture may be worth more than a thousand Twitter words. *Computers in Human Behav*. 2016;62:155-167. doi.org/10.1016/j.chb.2016.03.084
7. Baş Ö, Sunam Audry A, İnceoğlu İ, Kaya YB, Cöbek G, Alkurt SV. Türkiye'de genç yetişkinlerin sosyal medya kullanımları ve paylaşım türlerinin incelenmesi. *Intermedia International E-journ*. 2023;10(18):136-159. doi:10.56133/intermedia.1259262
8. Gündüz U. The effect of social media on identity construction. *Mediterranean J Soc Sci*. 2017;8(5):85.
9. Twenge JM, Cooper AB, Joiner TE, Duffy ME, Binau SG. Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005-2017. *J Abnormal Psychol*. 2019;128(3):185-199. doi.org/10.1037/abn0000410
10. Korkmaz ŞA, Duman Y, Kaymak SU, et al. The view of# schizophrenia on Twitter (a splitting of the mind in 280 characters). *J Health Sci Med*. 2021;4(1):91-95.
11. Budenz A, Klassen A, Purtle J, Yom Tov E, Yudell M, Massey P. Mental illness and bipolar disorder on Twitter: implications for stigma and social support. *J Mental Health*. 2020;29(2):191-199.
12. Coyne SM, Rogers AA, Zurcher JD, Stockdale L, Booth M. Does time spent using social media impact mental health? an eight year longitudinal study. *Comput Human Behav*. 2020;104:106160. doi.org/10.1016/j.chb.2019.106160
13. Sakarya DC, Güneş C. Sakarya D. İnternette intiharı aramak: internet sitelerinin intihar ile ilişkili içeriklerine göre değerlendirilmesi. *Türk Psikiyatri Derg*. 2013;24(1):44-48. doi: 10.5080/u6870
14. Brown RC, Fischer T, Goldwich AD, Keller F, Young R, Plener PL. Non-suicidal self-injury (NSSI) on Instagram. *Psychological Medic*. 2018;48(2):337-346. doi:10.1017/S0033291717001751
15. Bryan CJ. The clinical utility of a brief measure of perceived burdensomeness and thwarted belongingness for the detection of suicidal military personnel. *J Clin Psychol*. 2011;67(10):981-992. doi.org/10.1002/jclp.20726
16. Eskin M, Arslantaş H, Öztürk CŞ, Eskin B. Kişilerarası ihtiyaçlar anketi ve edinilmiş intihar yeterliliği-ölüm korkusuzluğu ölçeğinin psikometrik özelliklerinin araştırılması. *Klinik Psikiyatri Derg*. 2020;23(2). doi.10.5505/kpd.2020.30922

17. Ribeiro JD, Witte TK, Van Orden KA, et al. Fearlessness about death: the psychometric properties and construct validity of the revision to the acquired capability for suicide scale. *Psychologic Assessment.* 2014;26(1):115. doi.org/10.1037/a0034858
18. Jenkins-Guarnieri MA, Wright SL, Johnson B. Development and validation of a social media use integration scale. *Psychol Popular Media Cult.* 2013;2(1):38.
19. Akın A, Özbay A, Baykut İ. Sosyal medya kullanımı Ölçeği'nin Türkçe formu'nun geçerliği ve güvenirliği. *J Int Social Res.* 2015;8(38):108404870
20. Beck AT, Weissman A, Lester D, Trexler L. The measurement of pessimism: the hopelessness scale. *J Consult Clin Psychol.* 1974;42(6):861-865. doi:10.1037/h0037562
21. Durak B, Gün A. İntihar olasılığı: Yaşam sürdürme nedenleri, umutsuzluk ve yalnızlık açısınndan bir inceleme. *Türk Psikiyatri Derg.* 2005;16:29-39.
22. Eskin M, Kaynak-Demir H, Demir S. Same-sex sexual orientation, childhood sexual abuse, and suicidal behavior in university students in Turkey. *Arch Sexual Behav.* 2005;34(2):185-195. doi.10.1007/s10508-005-1796-8
23. Eskin M. The role of childhood sexual abuse, childhood gender nonconformity, self-esteem and parental attachment in predicting suicide ideation and attempts in Turkish young adults. *Suicidol Online.* 2012;3:114-123.
24. Joiner TE. Why people die by suicide: further development and tests of the interpersonal-psychological theory of suicidal behavior. meaning, mortality, choice. *Soc Psychol Existent Concerns.* 2012;325-336. doi.org/10.1037/13748-018
25. Auxier B, Anderson M. Social media use in 2021. *Pew Res Center.* 2021;1:1-4.
26. Servaty-Seib HL, Williams P, Liew CH. Interpersonal and intrapersonal predictors of suicidal thoughts and actions in first-year college students. *J Am College Health.* 2023;71(3):670-676 doi: 10.1080/07448481.2021.1904950
27. Zhao J, Chi Y, Ju Y, et al. Shame and suicidal ideation among undergraduates in China: The mediating effect of thwarted belongingness and perceived burdensomeness. *Int J Envir Res Public Health.* 2020;17(7):2360. doi:10.3390/IJERPH17072360.
28. Guidry ET, Cukrowicz KC. Death ideation in older adults: psychological symptoms of depression, thwarted belongingness, and perceived burdensomeness. *Aging Mental Health,* 2016;20(8):823-830. doi:10.1080/13607863.2015.1040721
29. Nesi J, Burke TA, Bettis AH, et al. Social media use and self-injurious thoughts and behaviors: A systematic review and meta-analysis. *Clin Psychol Rev.* 2021;87:102038. doi: 10.1016/j.cpr.2021.102038
30. Robinson J, Cox G, Bailey E, et al. Social media and suicide prevention: a systematic review. *Early Interv Psych.* 2016;10(2):103-21. doi.org/10.1111/eip.12229
31. John A, Glendenning AC, Marchant A, et al. Self-harm, suicidal behaviours, and cyberbullying in children and young people: Systematic review. *J Med Internet Res.* 2018;20(4):e129. doi: 10.2196/jmir.9044
32. Granato SL, Smith PN, Selwyn CN. Acquired capability and masculine gender norm adherence: Potential pathways to higher rates of male suicide. *Psychol Men Masculinity.* 2015;16(3):246-253. doi:10.1037/A0038181
33. Niederkrotenthaler T, Stack S, Till B, et al. Association of increased youth suicides in the United States with the release of 13 reasons why. *JAMA Psychiatry.* 2019;76(9):933-940. doi:10.1001/jamapsychiatry.2019.0922
34. Sinyor M, Williams M, Tran US, et al. Suicides in young people in Ontario following the release of "13 reasons why". *Can J Psychiatry.* 2019;64(11):798-804. doi.10.1177/0706743719870507